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(54) MECHANICAL SEAL**(57) Abstract:**

PURPOSE: To make it possible to cool a sealing end face so that the sealing end face is prevented from being overheated in case of the shaft seal against dry gas, by arranging one end of a heat pipe in the vicinity of the sealing end face and by carrying out the heat exchange at the other end of the heat pipe.

CONSTITUTION: A seal ring 4 is fitted through a packing 5 onto a shaft 3 extended through a casing 1 and a cover 2 which is secured to the end part of the casing 1. Further, another seal ring 6 is axially slidably fitted through a packing 7 in the inner periphery of the cover 2. Sealing end faces S are formed by the lateral surfaces 9, 10 of the seal rings 4, 6 which are abutted against each other. A heat pipe 13 is incorporated in the above-mentioned seal ring 6, and has one end 14 arranged in the vicinity of the sealing end faces S and the other end 15 exposed in a chamber 16 formed in the seal ring 6. With this arrangement, frictional heat generated

at the sealing end faces S is transmitted to the inside of the chamber 16 through the heat pipe 13 and is dissipated in the chamber 16, thereby the sliding end faces are cooled down.

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